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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/892,355 | 06/26/2001 | Eric L. Christiansen | MSC-23314-1 | 2179 |
| 24957 | 7590 | 06/26/2002 | | |
| NASA JOHNSON SPACE CENTER MAIL CODE HA 2101 NASA RD 1 HOUSTON, TX 77058 | | | EXAMINER LOFDAHL, JORDAN M | |
| | | | ART UNIT 3644 | PAPER NUMBER |
| DATE MAILED: 06/26/2002 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/892,355 | CHRISTIANSEN ET AL. |
| | Examiner Jordan M Lofdahl | Art Unit 3644 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 26 June 2001.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-34 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 26 June 2001 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-22 and 27-32, drawn to a composition of a shield, classified in class 89, subclass 36.02.
- II. Claims 23-26, drawn to method of shielding, classified in class 89, subclass 36.01.

During a telephone conversation with James Cate on 6/18/02 a provisional election was made without traverse to prosecute the invention of group I, claims 1-22 and 27-32. Affirmation of this election must be made by applicant in replying to this Office action. Claims 23-26 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Specification

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims, the second instance of claims 30 and 31, and the last claim 32 have been renumbered 32, 33 and 34 respectively.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 16 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 16, the applicant does not distinctly claim the limitations of the cover. The phrase "optically reflective or absorptive" renders the claim indefinite.

As to claim 17, the phrase "fragment or vaporize" renders the claim indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (e) the invention was described in–
 - (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
 - (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United

States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1, 2, 7-11, 13, 14, 16-22, 27, 28 and 32-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Dvorak (6298765).

As to claim 1, Dvorak discloses a device comprising a plurality of shield layers (36) which are capable of being flexible; a support layer (38) capable of being resilient; a protective cover (20); and fasteners (40).

As to claims 2 and 28, disclosed is the support layer being open cell foam.

As to claims 7-9 and 32-34, disclosed are the fasteners comprised of Velcro or snap or straps (col. 5, lines 3-7).

As to claims 10 and 11, disclosed is the flexible shield comprised of ceramic fabric or high-strength fabric (col. 3, lines 44-49).

As to claim 13, disclosed is the cover made of an abrasion resistant material and provide thermal protection (col. 4, lines 14-31).

As to claim 14, disclosed is a vented cover (22).

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As to claim 16, the cover is either optically reflective or absorptive.

As to claim 17, disclosed is a device comprising a means for shocking particles (36); means for supporting the shocking means in a resilient manner (38); means for enclosing the shocking means in a cover layer (20) and a means for securing the shocking means to a structure (40).

As to claim 18, disclosed is a means for reducing a size and volume occupied by the protection system. The device is capable of compressing (col. 3, lines 61-64).

As to claim 19, disclosed is a means for deploying the shocking means on a structure.

As to claim 20, disclosed is a means to thermally insulate the shocking means.

As to claim 21, disclosed is a means for venting gas particles (22).

As to claim 22, disclosed is a means for containing debris (col. 4, lines 37-48).

As to claim 27, disclosed are all the limitations of the instant invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-6 and 12, 15 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dvorak (6298765).

As to claims 3, 4 and 29, not disclosed is the support layer being closed-cell foam with a low pressure gas. It would have been obvious to one having ordinary skill in the art at the time the invention was made to comprise the support layer of closed-cell foam with a low pressure gas, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

As to claims 5 and 30, not disclosed is the support layer being a ceramic foam. It would have been obvious to one having ordinary skill in the art at the time the invention was made to comprise the support layer of a ceramic foam, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

As to claims 6 and 31, not disclosed is the support layer having one or more portions removed therefrom. It would have been obvious to one having ordinary skill in the art at the time the invention was made to remove portions of the support layer, since it has been held that omission of an element and its function in combination where the remaining elements perform the same function as before involves only routine skill in the art.

As to claim 12, not disclosed is the particle shield comprising at least one thermal insulation layer. Since the material is "space-rated". It is inherent that the shield is thermally insulated.

As to claim 15, not disclosed is the cover being flame retardant. It would have been obvious to one having ordinary skill in the art at the time the invention was made to comprise the cover of flame retardant material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Zeglen (578000), Stickles (2744846), Gates, Jr. (3649426), Van Laethem et al. (3930452), Smith, Jr. (4732803), Harpell (5196252), Binon et al.

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(5317950), Larriva et al. (5377935), Cordova et al. (5440965), Mejia (5463929), McClymonds (5601258), Mazelsky (5996115), Michaelson (6161462), Lyons et al. (6253655), Cordova et al. (6276254), Neal (6370690) and DE 350848A1 all disclose related devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jordan M Lofdahl whose telephone number is 703.605.1217. The examiner can normally be reached on 7-5 M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles T Jordan can be reached on 703.306.4159. The fax phone numbers for the organization where this application or proceeding is assigned are 703.305.7687 for regular communications and 703.305.7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.306.4180.

jml
June 19, 2002


CHARLES T. JORDAN
SUPERVISOR, PATENT EXAMINER
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